Ocean Explorers

Explore Oceans

Explore Technology

Explore Standards and Learning

Today's educators are faced with the daunting challenge of providing engaging ways to teach science, mathematics, technology, and social studies content while preparing their students to succeed in tomorrow's world. *Ocean Explorers*, a new project funded by the Information Technology Experiences for Teachers and Students (ITEST) program of the National Science Foundation, is designed to meet that challenge.

Explore Oceans

Teeming with life and mystery, oceans provide the perfect topic for engaging students' interest, introducing important concepts in information technology (IT), and challenging students to use IT in ways that mirror how it is employed in professional settings. *Ocean Explorers* will hook you and your students on the marine science laboratory that is right at your doorstep—Channel Islands National Marine Sanctuary and the southern California coast.

Analyzing water chemistry in the channel.

Explore Technology

While immersing you and your students in the beauty and science of your local marine environment, *Ocean Explorers* will introduce you to professional visualization tools—geographic information systems (GIS) and image processing and analysis (IPA)—that can be used to study the anthropology, biology, chemistry, ecology, economy, meteorology, physiography, and sociology of southern California's coastal waters and the Pacific Ocean. Using these tools, you will be able to involve your students in original research on issues of interest to their home communities: stormwater pollution, migrations of whales and other ocean life, balancing commercial uses of coastal waters with preservation of key features that make those waters special; and countless other topics.

Explore Standards and Learning

With assistance from the *Ocean Explorers* project, you will create inquiry-based activities for your students that will help your school achieve federal, state, and local standards. You will be trained and coached on how to use the Understanding by Design methodology of Wiggins and McTighe to develop projects that use targeted reading, mathematics, science, and technology standards as starting points for activities design. Online and face-to-face mentoring on instructional design, GIS, IPA, and ocean science by peers, IT professionals, and scientists will also help keep *you* focused and on track.

A GIS workshop on Santa Cruz Island.

Join the Team!

Ocean Explorers will recruit up to 20 teams of 3-5 teachers from middle and high schools in Los Angeles, Santa Barbara, and Ventura Counties, California. A three year commitment is provided to and required of each team. Turn the page to learn how you can become involved in *Ocean Explorers*!

A blue whale's tail.

Build Community and Have Fun

Two significant components of *Ocean Explorers* are field experiences and community building. Project workshops will be held on beaches, aboard vessels, and on the Channel Islands. Over a three-year period, teams of teachers participating in the project will

Teachers on a hike on Santa Cruz Island.

create and publish student activities that employ IT to study ocean science. The entire group of *Ocean Explorers* teachers will gather together for trainings, a think tank, and participation in ESRI's Education User Conference in San Diego.

Build Your School, Classroom, and Career

Ocean Explorers will provide software and equipment to each team of teachers participating in the project. During year one of the project, each teacher will receive ESRI's *Mapping Our World* book, which includes a one-year license for ArcView software; the *Discovering GIS* and *Mapping an Ocean Sanctuary* materials of the Center for Image Processing in Education; and NASA's *Image2000* software. During year two, all teams will receive a full license for ESRI's ArcView software, a handheld computer, a global positioning system (GPS) unit, a digital camera, and field research equipment. During year three, the teams will publish instructional materials and present their work at ESRI's Education User Conference. All teachers will receive up to 24 continuing education units (CEUs) for participating in the project. Stipends will be provided for all time spent on project activities (approximately 120 hours per teacher per year).

Channel Islands National Marine Sanctuary research and education vessel, the Shearwater.

A Three Year Partnership

Ocean Explorers is a partnership. Each team will commit to the project for three years. *Ocean Explorers* will provide training, mentoring, and technical support to foster the success of each team. Here's a brief schedule of project activities:

Year 1

- GIS, IPA, and GPS training.
- Ocean science field data collection training.

Year 2

- Understanding by Design workshop.
- Lesson development think tank.
- Development of community atlas projects.
- Field experiences for teachers and students.

Year 3

- Classroom testing of community atlas projects.
- Publication of projects.
- Presentations at ESRI's Education User Conference.
- *Ocean Explorers* workshop.

Interested?

Send an email to oceanexplorers@evisual.org, fax a note to 520/327-0175, or send a letter to *Ocean Explorers*, PO Box 13750, Tucson, AZ 85732-3750. In your correspondence, indicate why you are interested in the project and provide your name, position title, grade level, subject(s) taught, mailing address, telephone number, and email address. We will send an application packet to you in December, 2003. Please express your interest by November 30, 2003.

Collaborators

Ocean Explorers is a project of the Center for Image Processing in Education (CIPE) and the National Oceanic and Atmospheric Administration's Channel Islands National Marine Sanctuary. Project collaborators include ESRI, Los Angeles Unified School District, Aquilent, WestEd, the Santa Barbara County Education Office, the Ventura County Superintendent of Schools Office, and ClearOne Communications.

Questions?

Send an email to oceanexplorers@evisual.org or call 800/322-9884, extension 251. Keep an eye out for www.exploreoceans.org, coming soon!

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